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Estimating Corn Yield

David Vander Vliet, Extension agronomy educator

Step 1. Determine the number of row feet needed to equal 1/1000th of an acre. Refer to table 1 for this calculation.

Step 2. Determine the plant population. Count the number of plants for the row feet determined in Step 1 in 6–10 randomly chosen areas of the field. Average the results from the sampling areas. (NOTE: The average multiplied by 1,000 is the final plant population.)

Step 3. Determine the number of kernels per row. Count the number of kernels per row on 3–5 randomly selected ears within the sample area and average. Do not count the small kernels on both ends of the ear.

Step 4. Determine the number of rows. Count the number of rows on the 3–5 ears selected, and average them.

Step 5. Determine the number of kernels. Multiply the number of ears by the number of kernels per row by the number of rows (# ears x # kernels per row x # rows).

Step 6. Determine the yield. Divide the value from Step 5 by the kernels per bushel shown in table 2. Kernel size is affected by growing condition.

Table 1. Length of Row

Row space (inches)	Length of row in 1/1,000 acre	
	(feet)	(inches)
6	87	1
7	74	8
8	65	4
10	52	3
15	64	10
20	26	2
28	18	8
30	17	5
32	16	4
36	14	6
38	13	9
40	13	1

Example (30" rows, average growing conditions):

Step 1. 30" rows = need 17'5" for 1/1000th of an acre

Step 2. 26 ears in 17'5" (26,000 plants per acre is the plant population)

Step 3. 3 ears selected, each having 25 kernels per row

Step 4. 3 ears with 14, 16, and 18 rows = $14 + 16 + 18 \div 3 = 16$ rows

Step 5. 26 ears x 25 kernels per row x 16 rows = 10,400 kernels

Step 6. 10,400 kernels \div 90 kernels per bushel = 115.5 bushels per acre

Table 2. Kernel Numbers Per Bushel by Growing Condition

Growing conditions	Kernels per bushel (1,000s)
Excellent	75–80
Average	85–90
Poor	95–105

Reference:

Nielsen, R.L. (2010). "Estimating Corn Grain Yield Prior to Harvest. Corny News Network Articles. Retrieved April 25, 2011. <http://www.agry.purdue.edu/ext/corn/news/timeless/yldestmethod.html>.



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